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GENERAL PERMIT REGISTRATION APPLICATION
ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Registration No.:	G60-C091
Plant ID No.:	003-00155
Applicant:	U.S. General Services Administration (USGSA)
Facility Name:	Needy Road Federal Building
Location:	Martinsburg, Berkeley County
SIC Code:	9229
Application Type:	Construction
Received Date:	October 16, 2016
Engineer Assigned:	William T. Rothwell II, P.E.
Fee Amount:	$500.00
Date Received:	October 21, 2016
Complete Date:	October 26, 2016
Applicant Ad Date:	October 26, 2016
Newspaper:	*The Journal*
UTM's:	Easting: 279.21 km Northing: 4347.69 km Zone: 17
Description:	Permit application for the construction and operation of four (4) emergency generators for the purpose of providing back-up electrical power for electrical demands at the Federal Building. The emergency generators will be operated no more than 500 hours per year and the facility will limit testing/maintenance use to 52 hours per engine per calendar year.

PROCESS DESCRIPTION

A total of four emergency generators have been installed and operated at the Needy Road Federal Building since 1989. Diesel fueled emergency generators of various size were added over the course of the facilities development to provide back-up electrical power for electrical demands. The last emergency generator was installed in 2006. The following Table outlines the facility/generator configuration:

Table 1: Equipment and Control Device Listing

Emission Unit ID	Emission Unit Description	Detail Make/Model Fuel/Throughput	Year Installed/ Modified	Design Capacity	Year Manufactured	Control Device
EG-1	Emergency Generator #1	Caterpillar, 3512, 2FO / 78.19 gph	1989	1,100 kW 1,592 bhp	1989	None
EG-2	Emergency Generator #2	Caterpillar, 3512, 2FO / 89.7 gph	1993	1,252 kW 1,818 bhp	1993	None
EG-3	Emergency Generator #3	Caterpillar, 3512B, 2FO / 106.1 gph	2000	1,500 kW 2,172 bhp	2000	None
EG-4	Emergency Generator #4	Caterpillar, 3512B, 2FO / 107.9 gph	2006	1,500 kW 2,172 bhp	2006	None

SITE INSPECTION

This is an application for four (4) emergency generators installed for the purpose of allowing key systems to continue to operate without interruption during times of utility power outages. A site inspection was deemed unnecessary by the writer at this time, however, the facilities will be placed on the emergency generator list of sources from this permitting action.

Directions: From WV Route 9 (Veterans Memorial Highway) exit onto Opequon Connector, heading northeast. At intersection of Opequon Connector, turn right onto Rt. 115 (Charles Town Rd.), and head southeast to Irs Access Road. Turn left onto Irs Access Rd, then turn left onto Needy Rd. The facility will be on the right.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Engine emissions estimates for criteria pollutants CO, NOx, SO_2 and VOC for all generators were derived from Manufacturer's Data and from AP-42. Emission estimates for hazardous and toxic pollutants were determined using emission factors from AP-42, Section 3.4, Table 3.4-3. Emission estimates were calculated by the applicant and checked for accuracy and completeness by the writer.

USGSA's emergency generator installation and operations will result in the following estimated potential to discharge controlled emissions:

Table 2: Emergency Generator Emission Summary - Criteria Pollutants

Source ID No.	Potential Emissions (lbs/hr)					Potential Emissions (tons/yr)				
	NOx	CO	VOC	SO_2	PM_{10}	NOx	CO	VOC	SO_2	PM_{10}
EG-1	35.66	9.47	0.91	0.02	0.64	8.92	2.37	0.23	0.01	0.16
EG-2	40.72	10.82	1.04	0.02	0.73	10.18	2.70	0.26	0.01	0.18
EG-3	48.65	12.92	1.25	0.02	0.87	12.16	3.23	0.31	0.01	0.22
EG-4	48.65	12.92	1.25	0.02	0.87	12.16	3.23	0.31	0.01	0.22
TOTAL	173.68	46.13	4.45	0.08	3.11	43.42	11.53	1.11	0.04	0.78

Table 3: Emergency Generator Emission Summary - Hazardous/Toxic Pollutants

Source ID No.	Potential Emissions (lbs/hr)						Potential Emissions (tons/yr)					
	Benzene	Ethyl-benzene	Toluene	Xylenes	n-Hexane	Formal-dehyde	Benzene	Ethyl-benzene	Toluene	Xylenes	n-Hexane	Formal-dehyde
EG-1	0.01		0.01	0.01		0.01	0.01		0.01	0.01		0.01
EG-2	0.01		0.01	0.01		0.01	0.01		0.01	0.01		0.01
EG-3	0.01		0.01	0.01		0.01	0.01		0.01	0.01		0.01
EG-4	0.01		0.01	0.01		0.01	0.01		0.01	0.01		0.01
TOT	0.04	0	0.04	0.04	0	0.04	0.04	0	0.04	0.04	0	0.04

GENERAL PERMIT ELIGIBILITY

The proposed construction and operation of this facility meets the eligibility (Section 1.3), and limitations and standards (Section 5.1) as specified in General Permit G60-C. All four of the engines were manufactured prior to 2006. Although they are not subject to EPA's New Source Performance Standard ("NSPS") 40CFR60 Subpart IIII, they are classified as "existing" under U.S. EPA's National Emission Standards for Hazardous Pollutants ("NESHAP") as per 40CFR63 Subpart ZZZZ.

The proposed construction and operation of this facility meets the limitations and standards (Section 6.1) as specified in the General Permit G60-C. Petroleum liquid storage tank volume shall not exceed 39,889 gallons capacity and maximum true vapor pressure shall not exceed 2.17 psia for petroleum liquid storage tanks greater than 19,812 gallon capacity. The tank volumes provided for the ten sub-base integrated tanks listed within this application are each less than 19,812 gallons.

RECOMMENDATION TO DIRECTOR

USGSA's request to construct and operate four emergency generators at their Needy Road, Berkeley County, WV facility meets the requirements of General Permit G60-C and all applicable rules and therefore should be granted a General Permit Registration to construct and operate the emergency generators.

William T. Rothwell II, P.E.
Engineer

02/07/2017

Date